wherein at least 96% of the carbon atoms bearing boron are of the [bonds between the C and the B are in an] L-configuration;

wherein A′ comprises an amino acid; and

wherein the compound inhibits DPIV activity.

36. (Amended) The [compound] mixture of claim 35, wherein X^1 and X^2 are hydroxyl groups.

37. (Amended) The [compound] mixture of claim 35, wherein at least 97% of the carbon atoms bearing boron are of the [bonds between the C and the B are in an] L-configuration.

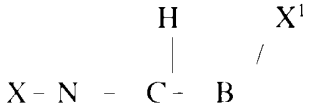
38. (Amended) The [compound] mixture of claim 35, wherein at least 98% of the carbon atoms bearing boron are of the [bonds between the C and the B are in an] L-configuration.

39. (Amended) The [compound] mixture of claim 35, wherein 99% of the carbon atoms bearing boron are of the [bonds between the C and the B are in an] L-configuration.

40. (Amended) The [compound] mixture of claim 35, wherein A′ is valine.

41. (Amended) The [compound] mixture of claim 35, wherein A′ is alanine.

42. (Amended) A mixture of stereoisomers consisting of two or more compounds of the following structure [An isolated compound having the structure]:



wherein each X^1 and X^2 is, independently, a hydroxyl group or a group capable of being

wherein at least 96 % of the carbon atoms bearing boron are of the [bonds between the C and the B are in an] L-configuration;

wherein X comprises an amino acid or a peptide; and

wherein the compound inhibits DPIV activity.

43. (Amended) The [compound] mixture of claim 42, wherein X^1 and X^2 are hydroxyl groups.

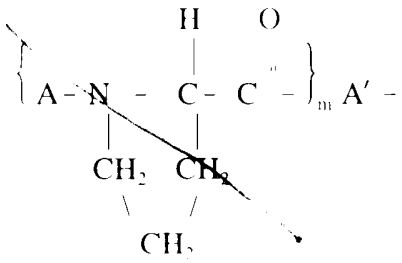
44. (Amended) The [compound] mixture of claim 42, wherein at least 97% of the carbon atoms bearing boron are of the [bonds between the C and the B are in an] L-configuration.

45. (Amended) The [compound] mixture of claim 42, wherein at least 98% of the carbon atoms bearing boron are of the [bonds between the C and the B are in an] L-configuration.

46. (Amended) The [compound] mixture of claim 42, wherein 99% of the carbon atoms bearing boron are of the [bonds between the C and the B are in an] L-configuration.

47. (Amended) The [compound] mixture of claim 42, wherein X is an L-amino acid.

48. (Amended) The [compound] mixture of claim 43, wherein X is a peptide having the structure



wherein A and A' are amino acid residues such that the A in each repeating bracketed unit can be the same or a different amino acid residue.